

PTO/SB/08a/b (08-03)

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Substitute for form 1449A/B/PTO			Complete if Known		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>			Application Number	10/680,963	
			Filing Date	October 7, 2003	
			First Named Inventor	Piotr Bobrowicz	
			Art Unit	1636	
			Examiner Name	Not yet assigned	
Sheet	1	of	12	Attorney Docket Number	GFI/108 CIP

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/CQ	AA	4,414,329	11-08-1983	Wegner	
	AB	4,617,274	10-14-1986	Wegner	
	AC	4,683,293	07-28-1987	Craig	
	AD	4,775,622	10-04-1988	Hitzeman et al.	
	AE	4,808,537	02-28-1989	Stroman et al.	
	AF	4,812,405	03-14-1989	Lair et al.	
	AG	4,818,700	04-04-1989	Cregg et al.	
	AH	4,837,148	06-06-1989	Cregg	
	AI	4,855,231	08-08-1989	Stroman et al.	
	AJ	4,857,467	08-15-1989	Sreekrishna et al.	
	AK	4,879,231	11-07-1989	Stroman et al.	
	AL	4,882,279	11-21-1989	Cregg	
	AM	4,885,242	12-05-1989	Cregg	
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	AP	4,935,349	06-19-1990	McKnight et al.	
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	AW	5,135,854	08-04-1992	Mackay et al.	
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	AY	5,324,663	06-28-1994	Lowe	
	AZ	5,595,900	01-21-1997	Lowe	
	AA1	5,602,003	02-11-1997	Pierse et al.	
	AB1	5,707,828	01-13-1998	Sreekrishna et al.	
	AC1	5,766,910	06-16-1998	Fukuda et al.	
	AD1	5,834,251	11-10-1998	Maras et al.	
	AE1	5,849,904	12-15-1998	Gerardy-Schahn et al.	
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	AG1	5,861,293	01-19-1999	Kojiri et al.	
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	AI1	5,945,314	08-31-1999	Prieto et al.	
	AJ1	5,945,322	08-31-1999	Gotschlich	
	AK1	5,955,347	09-21-1999	Lowe	
	AL1	5,955,422	09-21-1999	Lin	
	AM1	5,962,294	10-05-1999	Paulson et al.	
	AN1	6,017,743	01-25-2000	Tsuji et al.	
✓	AO1	6,096,512	08-01-2000	Elhammer et al.	
	AP1	6,204,431	03-20-2001	Prieto et al.	

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/CQ/	AQ1**	6,300,113	10-09-2001	Landry	
/CQ/	AR1	6,602,684	08-05-2003	Umaña	

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		Country Code ² -Number ³ -Kind Code ⁴ (if known)					
/CQ/ ↓							

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/CQ/	CA**	Abeijon et al., "Molecular Cloning of the Golgi apparatus uridine diphosphate-N-acetylglucosamine transporter from <i>Kluyveromyces lactis</i> ," <i>Proc. Natl. Acad. Sci. USA</i> 93:5963-5968 (1996).	
/CQ/	CB**	Adachi et al., "Mus Musculus Adult Male Testis cDNA, Riken full length enriched library, clone: 4931438M07 product: mannosidase 2, alpha 2, full insert sequence" XP002293645, Database accession no. AK029913 Abstract, Database EMBL, December 21, 2002	

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/CQ/	CC**	Alani et al., "A Method for Gene Disruption that Allows Repeated Use of URA3 Selection in the Construction of Multiply Disrupted Yeast Strains," <i>Genetics</i> 116, 541-545, August, 1987.	
	CD**	Altman et al., "Processing of Asparagine-linked Oligosaccharides in Insect Cells: Evidence for Alpha-Mannosidase II," <i>Glycoconj. J</i> 12(2):150-155 (1995).	
	CE**	Altman et al., "Insect cells as hosts for the expression of recombinant glycoproteins," <i>Glycoconj. J.</i> 16(2):109-123 (1999).	
	CF**	Andersen et al., "The Effect of Cell-Culture Conditions on the Oligosaccharide Structures of Secreted Glycoproteins," <i>Curr Opin Biotechnol</i> , 5(5):546-549, October 1994.	
	CG**	Aoki et al., "Expression and activity of chimeric molecules between human UDP-galactose transporter and CMP-sialic acid transporter," <i>J. Biochem.</i> (Tokyo), 126(5):940-50, November, 1999.	
	CH**	Bardor et al., "Analysis of the N-glycosylation of recombinant glycoproteins produced in transgenic plants," <i>Trends in Plant Science</i> 4(9): 376-380 (1999)	
	CI**	Beaudet et al., "High-level expression of mouse Mdr3 P-glycoprotein in yeast <i>Pichia pastoris</i> and characterization of ATPase activity," <i>Methods Enzymol</i> 292: 397-413 (1998)	
	CJ**	Berka et al., "The Filamentous Fungus <i>Aspergillus-Niger</i> Var <i>Awamori</i> as Host for the Expression and Secretion of Fungal and Non-Fungal Heterologous Proteins," <i>Abstr Papers Amer Chem Soc</i> 203: 121-BIOT (1992)	
	CK**	Berninsone et al., "The Golgi Guanosine Diphosphatase is Required For Transport of GDP-Mannose Into the Lumen of <i>Saccharomyces cerevisiae</i> Golgi Vesicles," <i>J. Biol. Chem.</i> , 269(1):207-211, January, 1994.	
	CL**	Berninsone et al., "Regulation of yeast Golgi glycosylation. Guanosine diphosphatase functions as a homodimer in the membrane," <i>J. Biol. Chem</i> 270(24): 14564-14567 (1995).	
	CM**	Berninsone et al., "Functional Expression of the Murine Golgi CMP-Sialic Acid Transporter in <i>Saccharomyces cerevisiae</i> ," <i>J. Biol. Chem.</i> 272(19):12616-12619, May, 1997.	
	CN**	Bianchi et al., "Transformation of the yeast <i>Kluyveromyces lactis</i> by new vectors derived from the 1.6 µm circular plasmid pKD1," <i>Current Genetics</i> , 12:185-192, 1987.	
↓	CO**	Boehm et al., "Disruption of the KEX1 Gene in <i>Pichia Pastoris</i> Allows Expression of Full-Length Murine and Human Endostatin," <i>Yeast</i> , 15:563-572 (1999).	

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/CQ/	CP**	Bonneaud et al., "A family of low and high copy replicative, integrative and single-stranded <i>S. cerevisiae</i> /E. coli shuttle vectors," <i>Yeast</i> 7(6): 609-615 (1991).	
	CQ**	Bretthauer et al., "Glycosylation of <i>Pichia pastoris</i> -derived proteins," <i>Biotechnol Appl Biochem</i> 30(Pt 3): 193-200 (1999).	
	CR**	Bretthauer et al., "Genetic engineering of <i>Pichia pastoris</i> to humanize <i>N</i> -glycosylation of proteins," <i>TRENDS in Biochem</i> , 21(11): 459-462 (2003).	
	CS**	Brockhausen et al., "Control of glycoprotein synthesis. The use of oligosaccharide substrates and HPLC to study the sequential pathway for <i>N</i> -acetylglucosaminyltransferases I, II, III, IV, V and VI in the biosynthesis of highly branched <i>N</i> -glycans by hen oviduct membranes," <i>Biochem. Cell Biol.</i> 66:1134-1151 (1988).	
	CT**	Callewaert et al., "Use of HDEL-Tagged <i>Trichoderma reesei</i> Mannosyl Oligosaccharide 1,2V-D-Mannosidase for <i>N</i> -glycan Engineering in <i>Pichia pastoris</i> ," <i>FEBS Letters</i> , 503(2-3):173-8, 2001.	
	CU**	Cereghino et al., "Heterologous protein expression in the methylotrophic yeast <i>Pichia pastoris</i> ," <i>FEMS Microbiology Reviews</i> , 24(1): 45-66 (2000).	
	CV**	Cereghino et al., "New selectable marker/auxotrophic host strain combinations for molecular genetic manipulation of <i>Pichia pastoris</i> ," <i>Gene</i> , 263:159-169 (2001).	
	CW**	Chandrasekaran et al., "Purification and Properties of Alpha-D-Mannose:beta-1,2-N-acetylglucosaminyl-transferases and alpha-D-Mannosidases from Human Adenocarcinoma," <i>Cancer Res.</i> , 44(9):4059-68, September, 1984.	
	CX**	Chiba et al., "Production of Human Compatible High Mannose-type (Man ₅ GlcNAc ₂) Sugar Chains in <i>Saccharomyces cerevisiae</i> ," <i>J. Biol. Chem.</i> , 273(41):26298-26304, October, 1998.	
	CY**	Choi et al., "Use of combinatrol genetic libraries to humanize N-linked glycosylation in the yeast <i>Pichia pastoris</i> ," <i>Proc. Natl. Acad. Sci. USA</i> 100(9):5022-5027, April, 2003.	
	CZ**	Chui et al., "Genetic Remodeling of Protein Glycosylation <i>in vivo</i> Induces Autoimmune Disease," <i>Proc. Natl. Acad. Sci., USA</i> 98:1142-1147, January, 2001.	
	CA1**	Chui et al., "Alpha-mannosidase-II Deficiency Results in Dyserythropoiesis and Unveils and Alternate Pathway in Oligosaccharide Biosynthesis," <i>Cell</i> , 1997 July 11; 90(1):157-67.	
V	CB1**	Daniel et al, "Mammalian Alpha-Mannosidases—Multiple Forms but a Common Purpose?", <i>Glycobiology</i> , 4, 551-566, October 1994.	

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/CQ/	CC1**	Davidson et al., "A PCR-Based Strategy to Generate Integrative Targeting Alleles With Large Regions of Homology," <i>Microbiology</i> , 148 (Pt 8):2607-15).	
	CD1**	Dente, "Human alpha-1-acid glycoprotein genes," <i>Prog. Clin. Biol. Res</i> 300:85-98 (1989).	
	CE1**	Duvet et al., "Cytosolic Deglycosylation Process of Newly Synthesized Glycoproteins Generates Oligomannosides Possessing One GlcNAc Residue at the Reducing End," <i>Biochem J.</i> , 335, 1998, 389-396.	
	CF1**	Eades et al., "Characterization of the Class I alpha-Mannosidase Gene Family in the Filamentous Fungus <i>Aspergillus Nidulans</i> ," <i>Gene</i> , 2000, Sept 5; 255(1):25-34.	
	CG1**	Eckhardt et al., "Molecular Cloning of the Hamster CMP-Sialic Acid Transporter," <i>Eur. J. Biochem.</i> , 248(1):187-192 (1997).	
	CH1**	Foster et al., "Cloning and Sequence Analysis of GmII, a <i>Drosophila</i> Melanogaster Homologue of the cDNA Encoding Murine Golgi alpha-Mannosidase II," <i>Gene</i> 154 (1995) 183-186.	
	CI1**	Gleeson, Paul A. "Targeting of Proteins to the Golgi Apparatus," <i>Histochem. Cell Biol.</i> , 109:517-532 (1998).	
	CJ1**	Gonzalez, Daniel S et al: "The Alpha-Mannosidases: Phylogeny and Adaptive Diversification" <i>Molecular Biology and Evolution</i> , vol.17, no.2, February 2000, pages 292-300, XP002293609 ISSN: 0737-4038	
	CK1**	Graham et al., "Compartmental Organization of Golgi-specific Protein Modification and Vacuolar Protein Sorting Events Defined in Yeast <i>sec18</i> (NSF) Mutant," <i>J. Cell. Biol.</i> , 114(2): 207-218 (1991).	
	CL1**	Grard et al., "Oligomannosides or Oligosaccharide-lipids as Potential Substrates for Rat Liver Cytosolic V-D-Mannosidase," <i>Biochem. J.</i> , 316: 787-792 (1996)	
	CM1**	Guillen et al., "Mammalian Golgi apparatus UDP-N-acetylglucosamine transporter: Molecular Cloning by Phenotypic Correction of a Yeast Mutant," <i>Proc. Natl. Acad. Sci. USA</i> , 95(14):7888-7892 (1998).	
	CN1**	Hamilton et al., "Production of Complex Human Glycoproteins in Yeast," <i>Science</i> 301:1244-1246 (2003).	
	CO1**	Harkki et al., "A Novel Fungal Express System - Secretion of Active Calf Chymosin from the Filamentous Fungus <i>Trichoderma-Reesei</i> ," <i>Bio-Tech</i> 7:596-603 (1989).	
V	CP1**	Harris B.R.: "Caenorhabditis Elegans Cosmid F58H1" XP002293610, Protein F58H1.1, Abstract, Database EMBL 13 July 1996	

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/CQ/	CQ1**	Ichishima et al., "Molecular and Enzymic Properties of Recombinant 1,2- α -Mannosidase from <i>Aspergillus saitoi</i> Overexpressed in <i>Aspergillus oryzae</i> Cells," 1999; <i>Biochem. J.</i> , 339(Pt 3): 589-597.	
	CR1**	Ishida et al., "Molecular Cloning and Functional Expression of the Human Golgi UDP-N-Acetylglucosamine Transporter," <i>J. Biochem.</i> , 126(1):68-77 (1999).	
	CS1**	Jarvis et al., "Isolation and Characterization of a Class II alpha-mannosidase cDNA from Lepidopteran Insect Cells," <i>Glycobiology</i> , 1997; 7(1):113-127 (1997).	
	CT1**	Jarvis et al., "Engineering N-glycosylation pathways in the baculovirus-insect cell system," <i>Curr Opin Biotechnol</i> 9(5): 528-33 (1998).	
	CU1**	Kainuma et al., "Coexpression of α 1,2 galactosyltransferase and UDP-galactose transporter efficiently galatosylates N- and O-glycan in <i>Saccharomyces cerevisiae</i> ," <i>Glycobiology</i> , 9(2): 133-141 (1999).	
	CV1**	Kalsner et al., "Insertion into <i>Aspergillus nidulans</i> of functional UDP-GlcNAc: α 3-D-mannoside β -1,2-N-acetylglucosaminyl-transferase I, the enzyme catalysing the first committed step from oligomannose to hybrid and complex N-glycans," <i>Glycoconj. J.</i> , 12(3):360-370 (1995).	
	CW1**	Kawar et al., "Insect Cells Encode a Class II α -Mannosidase with Unique Properties," <i>J. Biol. Chem.</i> , 276(19):16335-16340 (2001).	
	CX1**	Khatra et al., "Some kinetic properties of human milk galactosyltransferase," <i>Eur. J. Biochem.</i> 44:537-560 (1974).	
	CY1**	Krezdorn et al., "Human β 1,4 galactosyltransferase and α 2,6 sialyltransferase expressed in <i>Saccharomyces cerevisiae</i> are retained as active enzymes in the endoplasmic reticulum," <i>Eur. J. Biochem.</i> , 220(3): 809-17 (1994).	
	CZ1**	Lal et al., "Isolation and Expression of Murine and Rabbit cDNAs Encoding an α 1,2-Mannosidase Involved in the Processing of Asparagine-Linked Oligosaccharides," <i>J. Biol. Chem.</i> , 1994. 269(13): 9872-9881.	
	CA2**	Lal et al. "Substrate Specificities of Recombinant Murine Golgi α 1,2-Mannosidase IA and IB and Comparison with Endoplasmic Reticulum and Golgi Processing α 1,2-Mannosidases," <i>Glycobiology</i> 8(10):981-995, 1998.	
	CB2**	Liao et al., "Cloning, Expression, Purification, and Characterization of the Human Broad Specificity Lysosomal Acid α -Mannosidase," <i>J Biol Chem</i> 271(45): 28348-28358.	
✓	CC2**	Lehle and Tanner, "Membrane-Bound Mannosyl Transferase in Yeast Glycoprotein Biosynthesis," <i>Biochem. Biophys. Acta</i> , 350(1): 225-235, 1974.	

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/CQ/	CD2**	Lu et al., "Cloning and Disruption of the b-Isopropylmalate Dehydrogenase Gene of <i>Pichia Stipitis</i> with URA3 and Recovery of the Double Auxotroph," <i>Appl. Microbiol. Biotechnol.</i> , 49 (2): 141-146 (1998).	
	CE2**	Lussier et al., "The <i>KTR</i> and <i>MNNI</i> mannosyltransferase families of <i>Saccharomyces cerevisiae</i> ," <i>Biochimica et Biophysica Acta</i> 1426: 323-334 (1999).	
	CF2**	Malissard et al., "Expression of functional soluble forms of human beta-1, 4-galactosyltransferase I, alpha-2-6-sialyltransferase, and alpha-1, 3-fucosyltransferase VI in the methylotrophic yeast <i>Pichia pastoris</i> ," <i>Biochem Biophys Res Commun</i> 267(1): 169-173 (2000).	
	CG2**	Maras et al., "In vitro conversion of the carbohydrate moiety of fungal glycoproteins to mammalian-type oligosaccharides," <i>Eur. J. Biochem.</i> , 249: 701-707 (1997).	
	CH2**	Maras et al., "Filamentous fungi as production organisms for glycoproteins of bio-medical interest," <i>Glycoconjugate Journal</i> , 16:99-107 (1999)	
	CI2**	Maras et al., "Molecular Cloning and Enzymatic Characterization of a <i>Trichoderma reesei</i> 1,2-alpha-D-mannosidase," <i>J. Biotechnol.</i> , 77(2-3):255-263, 2000.	
	CJ2**	Martinet et al., "Modification of the protein glycosylation pathway in the methylotrophic yeast <i>Pichia pastoris</i> ," <i>Biotechnology Letters</i> 20(12): 1171-1177 (1998).	
	CK2**	Maruyama et al., "A 1,2-alpha-D-Mannosidase from a <i>Bacillus</i> sp.: Purification, Characterization, and Mode of Action," <i>Carbohydrate Res.</i> 251:89-98 (1994).	
	CL2**	McClure "Modeling the growth, survival and death of microorganisms in foods: the UK food micromodel approach," <i>Int. J. Food Microbiol.</i> , 23(3-4) 265-265 (1994).	
	CM2**	McGarvey et al., "Expression of the rabies virus glycoprotein in transgenic tomatoes," <i>Bio-Technology</i> 13(13): 1484-1487 (1995).	
	CN2**	Merkle et al., "Cloning, Expression, Purification, and Characterization of the Murine Lysosomal Acid Alpha-Mannosidase," <i>Biochim Biophys Acta</i> , 1336(2): 132-46 (1997).	
	CO2**	Miele et al., "Glycosylation Properties of the <i>Pichia pastoris</i> -Expressed Recombinant Kringle 2 Domain of Tissue-Type Plasminogen Activator," <i>Biotechnol. Appl. Biochem.</i> , 25:151-157 (1997).	
✓	CP2	Moens et al., "Glycoproteins in prokaryotes," <i>Arch. Microbiol.</i> 168(3): 169-175 (1997)	

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/CQ/	CQ2**	Moremen, "Golgi α -mannosidase II deficiency in vertebrate systems: implications for asparagine-linked oligosaccharide processing in mammals," <i>Biochimica Biophysica Acta</i> , 1573: 225-235 (2002).	
	CR2**	Moremen et al., "Biosynthesis and Modification of Golgi Mannosidase II in HeLa and 3T3 Cells," <i>J. Biol. Chem.</i> , 260(11): 6654-6662 (1985).	
	CS2**	Moremen et al., "Topology of Mannosidase II in Rat Liver Golgi Membranes and Release of the Catalytic Domain by Selective Proteolysis," <i>J. Biol. Chem.</i> , 261(23): 10945-10951 (1986).	
	CT2**	Moremen, "Isolation of a Rat Liver Golgi Mannosidase II Clone by Mixed Oligonucleotide-Primed Amplification of cDNA," <i>Proc. Natl. Acad. Sci., USA</i> 1989 July;86(14):5276-80.	
	CU2**	Moremen et al., "Isolation, Characterization, and Expression of cDNAs Encoding Murine ∇ -Mannosidase II, a Golgi Enzyme that Controls Conversion of High Mannose to Complex N-Glycans," <i>Journal of Cell Biology</i> , 1991 December; 115(6):1521-34.	
	CV2**	Moremen et al., "Glycosidases of the Asparagine-Linked Oligosaccharide Processing Pathway," <i>Glycobiology</i> 4(2): 113-125 (1994).	
	CW2**	Nakanishi-Shindo et al., "Structure of the N-Linked Oligosaccharides That Show the Complete Loss of α -1,6-Polymannose Outer Chain from <i>och1</i> , <i>och1 mnn1</i> , and <i>och1 mnn1 alg3</i> Mutants in <i>Saccharomyces cerevisiae</i> ," <i>J. Biol. Chem.</i> , 268(35):26338-45 (1993).	
	CX2**	Nakayama et al., "OCHI1 Encodes a Novel Membrane Bound Mannosyltransferase: Outer Chain Elongation of Asparagine-Linked Oligosaccharides," <i>Embo J.</i> , 11(7):2511-19, 1992.	
	CY2**	Nakayama et al. "Substrate Specificity of ∇ -1,6-Mannosyltransferase that Initiates N-Linked Mannose Outer Chain Elongation in <i>Saccharomyces cerevisiae</i> ," <i>FEBS Lett.</i> , 412(3):547-50, 1997.	
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/CQ/	CC3**	Oh-eda et al., "Overexpression of the Golgi-Localized Enzyme ∇ -mannosidase IIx in Chinese Hamster ovary Cells Results in the Conversion of Hexamannosyl-N-acetylchitobiose to Tetramannosyl-N-acetylchitobiose in the N-glycan-processing Pathway," <i>Eur. J. Biochem.</i> , 268: 1280-1288 (2001).
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/CQ/	CP3**	Satou and SatoH: "Ciona Intestinalis cDNA, clone: cieg014e11, full insert sequence." XP002293611, Database accession no. AK116684, the whole document, Database EMBL	
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	CC4**	Swiss Prot P32906	
	CD4**	Swiss Prot P39107	
	CE4**	Swiss Prot P50108	
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↓	CG4**	Takeuchi, "Trial for molecular breeding of yeast for the production of glycoprotein therapeutics," <i>Trends in Glycoscience and Glycotechnology</i> 9:S29-S35 (1997).	

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↓	CU4**	Genbank Accession No. AF005034	

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TCQ/	CV4**	Genbank Accession No. AF106080	
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	CX4**	Genbank Accession No. D55649	
	CY4**	Genbank Accession No. NM 073594	
	CZ4**	Genbank Accession No. NM 121499	
	CA5**	Genbank Accession No. U31520	
	CB5**	Genbank Accession No. X77652	
	CC5**	Genbank Accession No. XM 218816	
	CD5**	Genbank Accession No. NM 002406	
	CE5**	Genbank Accession No. CAA98114	
	CF5**	Genbank Accession No. NM 088548 (Genbank AN 6678787)	
	CG5**	Genbank Accession No. NM006715	
	CH5**	Genbank Accession No. X77652	
	CI5**	Genbank Accession No. X61172	
	CJ5**	Genbank Accession No. NM 000528	

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PATENT AND TRADEMARK OFFICEINFORMATION DISCLOSURE
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GFI-108SERIAL NO.
10/680,963APPLICANT
Piotr BobrowiczFILING DATE
October 7, 2003GROUP
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EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
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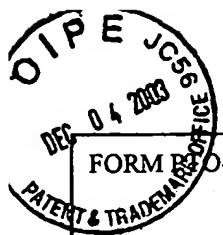
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						YES	NO
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STATEMENT BY APPLICANTAPPLICANT
Piotr BobrowiczFILING DATE
October 7, 2003GROUP
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